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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,643	05/02/2001	Yuzo Kano	19036/37333	6598

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EXAMINER	
EDMONDSON, LYNNE RENEE	
ART UNIT	PAPER NUMBER
1725	

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/847,643	KANO ET AL.
	Examiner	Art Unit
	Lynne Edmondson	1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-8,11,12,14,16-26 and 38-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-8,12,14,16-26 and 38-40* is/are rejected.

7)☒ Claim(s) *11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☒ The proposed drawing correction filed on *22 December 2003* is: a)☒ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☒ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claims11 is objected to because of the following informalities: Claim 11 is dependent from cancelled claim 10. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claims 5, 12, 14 and 18-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Schilling et al. (USPN 6604667 B2).

Schilling teaches a spot joining tool (col 1 lines 50-55 and col 4 lines 30-38) comprising a column shaped shoulder portion and a pin (14) protruding from the shoulder, a substantially L-shaped frame (27, figure 1), a linear guide (17) provided on an upper portion of the frame, a rotation motor which operates the pin (col 1 lines 29-33) provided on the guide member, a motion motor (col 3 lines 13-23 and lines 64-67) and a column shaped receiving member (19) for receiving two or more metal workpieces (col

4 line 30 – col 5 line 16). The process is used to manufacture automobile parts or railway vehicles using a robot (col 1 lines 50-55 and col 2 lines 3-24). The shape of the probe forms a concave portion at the joint spot. The method comprises the steps of rotating the tool and inserting the pin into the work, pressing the shoulder against the work, agitating portions of the work and pulling out the tool (col 5 line 26 – col 6 line 5). The two, flat metal workpieces are lapped (figure 8). The receiving member has a flat surface, which applies a pressing (hold down) force (figures 1 and 8). See also Schilling claims 1, 3-7 and 9.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 6-8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schilling et al. (USPN 6604667 B2) in view of Thompson (USPN 6302315 B1).

Schilling teaches a spot joining tool (col 1 lines 50-55 and col 4 lines 30-38) comprising a column shaped shoulder portion and a pin (14) protruding from the

shoulder, a substantially L-shaped frame (27, figure 1), a linear guide (17) provided on an upper portion of the frame, a rotation motor which operates the pin (col 1 lines 29-33) provided on the guide member, a motion motor (col 3 lines 13-23 and lines 64-67) and a column shaped receiving member (19) for receiving two or more metal workpieces (col 4 line 30 – col 5 line 16). The process is used to manufacture automobile parts or railway vehicles using a robot (col 1 lines 50-55 and col 2 lines 3-24). The shape of the probe forms a concave portion at the joint spot. The method comprises the steps of rotating the tool and inserting the pin into the work, pressing the shoulder against the work, agitating portions of the work and pulling out the tool (col 5 line 26 – col 6 line 5). The two, flat metal workpieces are lapped (figure 8). The receiving member has a flat surface, which applies a pressing (hold down) force (figures 1 and 8). However, the motors are not further disclosed.

Thompson teaches a spot joining method comprising the steps of rotating a joining tool having a pin around an axis with the pin pressed against positioned works and inserted into the predetermined joint spot, stirring and fusing the works and thereafter pulling out the tool (col 2 lines 23-40). The joining device comprises an induction motor (col 4 lines 46-52) and a servo motor (col 5 line 42 – col 6 line 3 and col 4 lines 53-67), which are used to rotate the tool and move it along an axis. The motors are provided on a frame (22) comprising a moveably attached linear guide (50), attached to a rail (64), which is parallel, the tool axis (col 4lines 18-67). See also figure 1 and Thompson claims 1, 2 and 13. The device comprises a receiving member (26) having a flat surface and columns (109) opposite the joining tool (figure 4 and col 6

lines 5-24). The lower part of the frame forms an L shape (figure 1). Parts are metal (col 1 lines 10-26). Figure 5 shows the pin (94) having a raised central portion descending from a column shaped shoulder having cylindrical end face at a right angle. See Thompson claims 1, 2, and 7-14.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use conventional servomotors and induction motors to facilitate control of manufacturing robots (Schilling, col 2 lines 6-17) and thereby allow instant, accurate adjustments during processing.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

4. Claims 16, 17, 26, 38, 39 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schilling et al. (USPN 6604667 B2) in view of Heideman et al. (USPN 6053391).

Schilling teaches a spot joining tool (col 1 lines 50-55 and col 4 lines 30-38) comprising a column shaped shoulder portion and a pin (14) protruding from the shoulder, a substantially L-shaped frame (27, figure 1), a linear guide (17) provided on an upper portion of the frame, a rotation motor which operates the pin (col 1 lines 29-33) provided on the guide member, a motion motor (col 3 lines 13-23 and lines 64-67) and a column shaped receiving member (19) for receiving two or more metal workpieces (col 4 line 30 – col 5 line 16). The process is used to manufacture automobile parts or

railway vehicles using a robot (col 1 lines 50-55 and col 2 lines 3-24). The shape of the probe forms a concave portion at the joint spot. The method comprises the steps of rotating the tool and inserting the pin into the work, pressing the shoulder against the work, agitating portions of the work and pulling out the tool (col 5 line 26 – col 6 line 5). The two, flat metal workpieces are lapped (figure 8). The receiving member has a flat surface, which applies a pressing (hold down) force (figures 1 and 8). However, the robots are not further disclosed. Neither is a concave joint disclosed.

Heideman teaches a spot joining tool comprising a gun on the wrist of an articulated robot (col 4 lines 20-35). The pin comprises forms a concave joint (figure 4).

It would have been obvious to one of ordinary skill in the art at the time of the invention that the joint shape is dependent upon pin shape and depth of penetration. Conventional round or conical pins, typically form concave joints. By using manufacturing robots (Schilling, col 2 lines 6-17) with articulated wrists, instant adjustments can be made during processing.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Response to Arguments

5. Applicant's arguments with respect to claims 5-8, 11, 12, 14, 16-26 and 38-40 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

6. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Waldron et al. (USPN 6367681 B1, L-frame), Koga et al. (JPN 2002-120077 A, L-frame) and Kashiki .

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne Edmondson whose telephone number is (571) 272-1172. The examiner can normally be reached on Monday through Thursday from 6:30 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lynne Edmondson
Primary Examiner
Art Unit 1725

3/16/04

LRE